

REMARKS

This Amendment is in response to the Examiner's Office Action mailed September 19, 2001. Claims 8, 9, 13-22 and 30 are canceled. Claims 1 and 34 are amended. New claim 36 is added. Claims 1-5, 7, 10-12, and 31-36 are now pending in view of the above amendments.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in the order which the corresponding issues were raised in the Office Action.

I. Rejections under 35 U.S.C. §112, Second Paragraph

Claim 20 is rejected under 35 U.S.C. §112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants' cancellation of the claim renders the rejection moot.

II. Rejections under 35 U.S.C. §102

i) Rejection under 35 U.S.C. §102 (b) in view of Storm III

Claims 1-3, 5, 13-14, 16-20 and 22 are rejected under 35 U.S.C. §102(b) as being anticipated by Storm III (US Patent No. 4,140,130).

Applicants cancel claims 13-22 and amend independent claim 1 to specify an apparatus for skin treatment that includes a fluid delivery member having a portion that is a **porous membrane** with a tissue interface surface. Through an electrolytic medium passing through the porous membrane of the fluid delivery member, thermal energy is delivered by a thermal energy delivery device to the skin and the underlying tissue.

By contrast, Storm III teaches an electrode structure for hyperthermal treatment of tumors. See "Abstract". The electrode disclosed in Storm III has a wall "made of thin metal having characteristics of effective and efficient transfer of heat and also electrical conductivity". Column 6, lines 7-10. Nowhere in Storm III is taught an apparatus having a fluid delivery device that includes a porous membrane. To the contrary, Storm III uses "a separate **fluid tight** bag

95..... filled with electrolyte solution 96 such as salt water". Column 12, lines 33-36. Clearly, Storm III fails to anticipate the claimed apparatus having a porous membrane through which an electrolytic medium passes to deliver thermal energy to the skin and underlying tissue. Withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

ii) Rejection under 35 U.S.C. §102 (e) in view of Edwards

Claims 1-3, 5, 7, 8, 10-19, 21 and 22 are rejected under 35 U.S.C. §102(e) as being anticipated by Edwards (US Patent No. 5,505,730). As discussed in detail above, independent claim 1 as amended specifies that the porous membrane of a fluid delivery member has a tissue interface surface that contacts the skin when applied to the surface of the skin.

In contrast, Edwards teaches an apparatus for ablating a portion of the inner layer of an organ of the body. To reach the part of the internal organ that is difficult to access, Edwards used a balloon with a conforming member that conforms to the irregular surfaces of the inner layer of the organ. Optionally, a porous membrane is positioned between the conforming member and the balloon. See "Abstract". Thus, the claimed apparatus with structural features especially adapted for the treatment of skin is distinguishable from the apparatus used by Edwards to ablate internal body organ. Thus, Edwards fails to anticipate the claimed apparatus. Withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

iii) Rejection under 35 U.S.C. §102 (e) in view of Edwards *Eggers et al.*

Claims 13, 20, 22 and 30-33 are rejected under 35 U.S.C. §102(e) as being anticipated by Eggers et al. (US Patent No. 6,159,194). Specifically, the Examiner alleges that Eggers et al. discloses the method specified in independent claim 30-33 for tightening an external surface of the skin. Applicants respectfully traverse the rejection based on the following reason.

Eggers et al. is not a 102(e) prior art as to the disclosure of the method for tightening the skin. Eggers et al. was filed on Oct. 2, 1997 as a CIP of US Patent Application Serial No. 08/446,767 filed on May 10, 1994, now issued as US Patent No. 5,697,909 (the Eggers '909 patent). The Eggers '909 patent fails to disclose any method for tightening skin through controlled contraction of collagen. Instead, Eggers '909 patent discloses methods and apparatus for performing **electrosurgical interventions, such as ablation and cutting of body structure**. Column 2, lines 55-59. The teaching of Eggers '909 patent as a whole is focused on ablation of

tissue by limiting the depth of tissue necrosis. Column 3, lines 24-27. Nowhere in this patent is found teaching or suggestion of the claimed method for tightening skin without substantially creating cell necrosis in the epidermis. In fact, a global search of the text of this patent fails to identify any skin-related terms and applications, such as "skin" and "derma". Thus, the effective filing date for Eggers' disclosure of any skin-related method is Oct. 2, 1997.

The present invention is a continuation of US Patent Application Serial No. 08/435,544 which was filed on May 5, 1995, much earlier than the effective filing date of Eggers et al. Thus, the priority date of the present invention predates Eggers et al. Under 35 U.S.C. §102(e), Eggers et al. is not a prior art reference. Withdrawal of the rejection is therefore respectfully requested.

III. Claim Objection

Claim 9 is objected as being dependent upon a rejected base claim. The Examiner states that claim 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants cancel claim 9 and add new claim 36 which is claim 9 rewritten as independent form. Allowance of claim 36 is respectfully requested.

CONCLUSION

In light of the Amendments and the arguments set forth above, Applicants earnestly believe that they are entitled to a letters patent, and respectfully solicit the Examiner to expedite prosecution of this patent application to issuance. Should the Examiner have any questions, the Examiner is encouraged to telephone the undersigned.

The Commissioner is authorized to charge any fees which may be required, including petition fees and extension of time fees for a small entity, to Deposit Account No. 23-2415 (Docket No. 16904-738).

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Title:

Please amend the title as follows

[METHOD AND APPARATUS FOR CONTROLLED CONTRACTION OF
COLLAGEN TISSUE] METHOD AND APPARATUS FOR TIGHTENING SKIN BY
CONTROLLED CONTRACTION OF COLLAGEN TISSUE

In the Claims:

Please amend the following claims:

1. (Twice Amended) A skin treatment apparatus, comprising:
 - a fluid delivery member [with], a portion of which is a porous membrane with a tissue interface surface that remains conformable to a skin surface as the tissue interface surface is applied to a surface of the skin;
 - a fluid passage lumen coupled to the fluid delivery member; and
 - a thermal energy delivery device coupled to the fluid delivery member in a position to transfer thermal energy to an electrolytic medium that passes through the porous membrane of the fluid delivery member.

34. (Twice Amended) An apparatus for applying energy through a skin epidermis surface of an underlying subcutaneous layer or deeper soft tissue layers that includes collagen containing tissue, comprising:
 - a membrane that conforms a contacting exterior surface of the membrane to the skin epidermis surface;
 - one or more electrodes positioned in the membrane configured to be coupled to an energy source;
 - an electrolytic medium positioned in the membrane [a] and coupled to the electrodes to receive energy from the electrodes and transfer energy from the electrodes to the skin epidermis surface; and

a focussing element coupled to the membrane, which creates a reverse thermal gradient from the skin epidermis surface to the collagen containing tissue.